

Pending Claims

Listed below is a listing of pending claims. No amendments are made in this response. This listing of claims will replace all prior versions, and listings, of claims for the present application:

Claims 1-5 (Canceled).

6. (Previously Presented) A semiconductor device formed using a photo-definable layer in a positive mask scheme, comprising:

a substrate;

at least one feature formed on said substrate by converting selected portions of a photo-definable layer to an insulative material through exposure to electro-magnetic radiation in a positive mask scheme and by using non-exposed portions of said photo-definable layer as a mask to form said at least one feature; and

an insulative layer formed on said substrate from said non-exposed portions of said photo-definable layer which remain after the positive mask scheme and are then subsequently converted to the insulative layer through exposure to further electro-magnetic radiation.

7. (Canceled).

8. (Previously Presented) The semiconductor device of claim 6, wherein said photo-definable layer comprises an organosilicon resist.

9. (Original) The semiconductor device of claim 8, wherein said photo-definable layer comprises plasma polymerized methylsilane (PPMS).

10. (Original) The semiconductor device of claim 9, wherein said feature is part of a memory cell array.

Claims 11-18 (Canceled).

19. (Previously Presented) A patterned insulative structure within a semiconductor device formed using a photo-definable layer in a positive mask scheme, comprising:

a substrate; and

a patterned insulative layer formed on said substrate by converting selected portions of a photo-definable layer to an insulative material through exposure to electromagnetic radiation in a positive mask scheme and by using non-exposed portions of said photo-definable layer as a mask to form said patterned insulative layer wherein said insulative layer comprises an oxide layer and the non-exposed portions of said photo-definable layer are utilized to mask the oxide layer to form said patterned insulative layer.

20. (Canceled).

21. (Previously Presented) The patterned insulative structure of claim 19, wherein said photo-definable layer comprises an organosilicon resist.

22. (Original) The patterned insulative structure of claim 21, wherein said photo-definable layer comprises plasma polymerized methylsilane (PPMS).

23. (Original) The patterned insulative structure of claim 22, wherein said insulative layer comprises a plurality of trench structures within a memory cell array.

24. (Original) The patterned insulative structure of claim 23, wherein said patterned insulative layer comprises non-exposed portions of said photo-definable layer that were converted into additional insulative material after formation of said patterned insulative layer.

Claims 25-33 (Canceled).

34. (Original) A conductive interconnect structure within a semiconductor device formed using a photo-definable layer, comprising:

- a substrate;
- a first conductive layer over said substrate;
- an insulative layer over said conductive layer; and
- a second conductive layer formed within a desired portion of said insulative layer to create a conductive interconnect structure connected to said first conductive layer, said second conductive layer being formed by converting selected portions of a photo-definable layer to an insulative material through exposure to electromagnetic radiation in a positive mask scheme, by using non-exposed portions of said photo-definable layer as a mask to form a pattern within said insulative layer, and by using non-exposed portions of said photo-definable layer as a sacrificial mask in etching said second conductive layer.

35. (Original) The conductive interconnect structure of claim 34, wherein said photo-definable layer comprises an organosilicon resist.

36. (Original) The conductive interconnect structure of claim 35, wherein said photo-definable layer comprises plasma polymerized methylsilane (PPMS).

37. (Original) The conductive interconnect structure of claim 34, wherein said substrate includes a plurality of transistor gate structures for a memory cell array.

Claims 38-48 (Canceled).

49. (Previously Presented) A patterned insulative structure within a semiconductor device using a photo-definable layer as a mask layer, comprising:

a substrate; and

an insulative layer on said substrate formed by covering a photo-definable layer with a separate patterned organic photoresist, by converting unmasked portions of a photo-definable layer to an insulative material through exposure to electromagnetic radiation in a positive mask scheme, and by using non-exposed portions of said photo-definable layer and said organic photoresist as a mask to form a pattern within said insulative layer.

50. (Original) The patterned insulative structure of claim 49, wherein said photo-definable layer comprises an organosilicon resist.

51. (Original) The patterned oxide structure of claim 50, wherein said photo-definable layer comprises plasma polymerized methylsilane (PPMS).

52. (Original) The patterned insulative structure of claim 51, wherein said insulative layer comprises an oxide layer.

53. (Original) The patterned insulative structure of claim 52, wherein said insulative layer comprises a plurality of trench structures within a memory cell array.

54. (Original) The patterned insulative structure of claim 49, wherein said insulative layer comprises non-exposed portions of said photo-definable layer subsequently converted into additional insulative material.

Claims 55-100 (Canceled).